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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,074	11/20/2003	John Kamieniecki	D03127	8649

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EXAMINER	
LIN, JASON K	

ART UNIT	PAPER NUMBER
2623	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/718,074	KAMIENIECKI, JOHN	
	Examiner	Art Unit	
	JASON K. LIN	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/19/2004, 05/16/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is responsive to application No. 10/718,074 filed on 11/20/2003. **Claims 1-30** are pending and have been examined.

Information Disclosure Statement

2. The information disclosure statement (IDS) filed on 02/19/2004 and 05/16/2007 are considered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-3, 7-10, 12-14, and 17-30** are rejected under 35 U.S.C. 102(e) as being anticipated by Caporizzo (US 5,874,992).

Consider **claim 1,** Caporizzo teaches a method of monitoring signal quality in a cable network comprising a headend connected by a cable network to a plurality of set-top boxes (STBs) (Fig.1; Col 1: lines 34-44, Col 1: line 64 – Col 2: line 3), the method comprising:

at selected ones of the STBs, monitoring and collecting information about signals received by the STB (Col 3: lines 14-17, Col 4: line 45 – Col 5: line 3, Col 5: lines 4-38 teaches the STB receiving downstream transmissions from the headend 15 and accumulating data to check for errors and calculating an error rate, and forwarding the information to the server).

Consider **claim 7,** Caporizzo teaches a method of monitoring statistics about cable transmissions on a cable network comprising a headend and a plurality of set-top boxes (STBs) (Fig.1; Col 1: lines 34-44, Col 1: line 64 – Col 2: line 3), the method comprising:

using at least one of the plurality of STBs, collecting statistics on plant health by monitoring signals on downstream and upstream paths, and reporting information related to the quality of these signals from the STB back to the headend (Col 3: lines 14-17, Col 4: line 45 – Col 5: line 3, Col 5: lines 4-38 teaches the STB receiving downstream transmissions from the headend 15 and accumulating data to check for errors and calculating an error rate, and forwarding the information to the server. Col 6: lines 44-60 teaches monitoring the error rate of the upstream path).

Consider **claim 28,** Caporizzo teaches an apparatus for monitoring signal quality in a cable network comprising a headend connected by cable to a plurality of set-top boxes (STBs) (Fig.1; Col 1: lines 34-44, Col 1: line 64 – Col 2: line 3), wherein at least one of the STBs comprises:

in-band tuner means for receiving first signals from the cable operator (Col 4: lines 6-10, 30-45; Col 3: lines 64-67);

out-of-band tuner means for receiving second signals from the cable operator (Col 4: lines 15-20; Col 3: lines 51-57, 60-64);

monitor means for generating information related to signal quality (Fig.3; Col 4: line 30 – Col 5: line 43);

controller means for controlling the overall operation of the STB (microprocessor 138-Fig.3); and

non-volatile memory means for storing the information generated by the monitor means (memory 160-Fig.3; Col 5: lines 11-24, 36-39).

Consider **claim 2,** Caporizzo teaches wherein the information comprises at least one of channel absence/presence, error count and signal level estimates (Col 5: lines 4-38).

Consider **claim 3,** Caporizzo teaches wherein the cable network includes a downstream path for providing services/content to the STBs (Col 2: lines 34-37, Col 3: lines 4-6) and an upstream path allowing the STBs to transmit information which has been collected to the headend (Col 5: lines 4-38).

Consider **claim 8,** Caporizzo teaches performing the monitoring function in the background when the STB is not being used (Col 5: lines 54-57).

Consider **claim 9,** Caporizzo teaches storing the statistics for future collection via a two way polling mechanism (Col 5: lines 8-30, 36-38, 44-49; Fig.1, Col 2: lines 34-39).

Consider **claim 10,** Caporizzo teaches transmitting the statistics from the STB to the headend as they are collected (Col 5: lines 5-30, 36-38).

Consider **claim 12,** Caporizzo teaches monitoring errors/dropouts on the downstream path (Col 3: lines 14-17, Col 4: line 45 – Col 5: line 3, Col 5: lines 4-38).

Consider **claim 13,** Caporizzo teaches transmitting ping messages from the STB to the headend and back to the STB (Col 6: lines 44-60).

Consider **claim 14,** Caporizzo teaches monitoring the downstream path, by waiting until the STB is in an off state, then tuning each channel in a channel map (Col 5: lines 54-57 teaches a central processor instructing the STB to determine the BER {monitoring downstream path} on selected CATV channels when the subscriber terminal is not turned ON {idle state}. *In order for the CPU to instruct the STB to monitor "selected CATV channels" there must have been a channel map of some kind to see what channels are to be monitored)*.

Consider **claim 17,** Caporizzo teaches cycling through the channel map at some periodicity (Col 5: lines 52-63).

Consider **claim 18,** Caporizzo teaches monitoring the upstream path by transmitting a "ping" type signal from the STB to the headend (Col 6: lines 44-60).

Consider **claim 19,** Caporizzo teaches at the head-end, receiving the transmitted ping signal and returning it to the STB via the downstream path (Col 6: lines 44-60).

Consider **claim 20,** Caporizzo teaches wherein: the return ping message comprises statistics about the signal that the headend received from the STB (Col 6: lines 44-60).

Consider **claim 21,** Caporizzo teaches wherein: upon reception of the return ping message, the STB verifies functionality and records any appropriate signal statistics in its records (Caporizzo – Col 6: lines 44-60 teaches the STB receiving BER data back from the headend and determining if the upstream transmission is good or not. *Signal statistics must be stored someplace on record at least, but not limited to just the time-frame that is necessary for verifying functionality after reception of the BER data*)

Consider **claim 22,** Caporizzo teaches collecting information at the STB and transmitting it from the STB to the headend using a polling system (Col 5: lines 4-38).

Consider **claim 23,** Caporizzo teaches wherein: the information is transmitted to the head end on the upstream path (Figs.1, 2; Col 5: lines 36-38).

Consider **claim 24,** Caporizzo teaches wherein the headend queries the STB for a report of channel health monitoring statistics (Col 5: lines 4-38).

Consider **claim 25,** Caporizzo teaches wherein: the cable network comprises nodes, and there is at least one monitoring-enabled STB per node (Fig.1; Col 5: lines 4-38).

Consider **claim 26,** Caporizzo teaches wherein: when there are several monitoring-enabled STBs per node, a portion of the STBs are enabled and a remaining portion of the STBs are quiescent (Col 5: lines 54-63, Col 6: lines 5-19 teaches providing the central processor 71-Fig.2 located at the headend reatians the ability to instruct STB to determine the BER on select channels when the terminal is not turned on. It can do that by polling specific terminals. *Therefore, if the central processor retains control over all STBs for monitoring of channel quality when the terminal is not turned ON, and can specifically control/instruct*

each STB terminal, it can enable some terminal to monitor for channel quality while leaving others quiescent).

Consider **claim 27,** Caporizzo teaches from the headend, turning off the monitoring function of a monitoring-enabled STB and turning on the monitoring function of a quiescent STB on the same node (Col 5: lines 54-63, Col 6: lines 5-19 teaches providing the central processor 71-Fig.2 located at the headend reatians the ability to instruct STB to determine the BER on select channels when the terminal is not turned on. It can do that by polling specific terminals. *Therefore, if the central processor retains control over all STBs for monitoring of channel quality when the terminal is not turned ON, and can specifically control/instruct each STB terminal, it can have specific STBs stop monitoring and specify other STBs to start monitoring*).

Consider **claim 29,** Caporizzo teaches means for transmitting the information from the STB to the headend as it is collected (Col 5: lines 5-30, 36-38).

Consider **claim 30,** Caporizzo teaches means for transmitting the information from the STB to the headend when the STB is polled by the headend (Col 5: lines 8-30, 36-38, 44-49; Fig.1, Col 2: lines 34-39).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Caporizzo (US 5,874,992) in view of Dinwiddie et al. (US 2003/0204857).

Consider **claim 4,** Caporizzo teaches wherein the STB comprises an in-band (IB) tuner for receiving first signals from the headend (Col 4: lines 6-10, 30-45; Col 3: lines 64-67), an out of band (OOB) tuner for receiving second signals from the headend (Col 4: lines 15-20; Col 3: lines 51-57, 60-64), a monitor (MON) for generating the information about at least one of the first and second signals received by the STB (Fig.3; Col 4: lines 30-45), a controller (CONTROLLER) for controlling the overall operation of the STB (microprocessor 138-Fig.3), and memory for storing the information about the first and second signals received by the STB (memory 160-Fig.3; Col 5: lines 11-24, 36-39), but does not explicitly teach the memory is non-volatile memory (NVM).

In an analogous art Dinwiddie teaches, memory is non-volatile memory (NVM) (NVM 34-Fig.1; Paragraph 0022).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify Caporizzo's system to include memory is non-volatile memory (NVM), as taught by Dinwiddie, for the advantage of having data still stored when

power is no longer applied to the device, allowing for a more energy efficient design, and one less problem to worry about during power loss, allowing important data to be retained.

7. **Claims 5, 6, and 15-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Caporizzo (US 5,874,992) in view of Petrovic et al. (US 2004/0073916).

Consider **claim 5,** Caporizzo teaches wherein the STB maintains a channel map, further comprising: when the STB is in an idle state, at the STB, tuning through the channels in the channel map and collecting the information about the first and second signals received by the STB (Col 5: lines 54-57 teaches a central processor instructing the STB to determine the BER {monitoring downstream path} on selected CATV channels when the subscriber terminal is not turned ON {idle state}. *In order for the CPU to instruct the STB to monitor "selected CATV channels" there must have been a channel map of some kind to see what channels are to be monitored.* Col 5: lines 20-24, 36-38 teaches the collected information are collected and stored*)*, but does not explicitly teach including applying a time stamp to the information.

In an analogous art Petrovic teaches, applying a time stamp to information (Paragraph 0044).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify Caporizzo's system to include applying a time stamp to information,

as taught by Caporizzo, for the advantage of providing more precise control and record keeping, allowing the system to accurately retain data on when information was received.

Consider **claim 6,** Caporizzo and Petrovic teach upon reaching a last channel in the channel map, entering a sleep mode for a given period of time, at the end of which time the STB resumes monitoring signals received by the STB (Caporizzo – Col 5: lines 52-63).

Consider **claim 15,** Caporizzo teaches monitoring each channel's health for a period of time (Col 5: lines 57-63), but does not explicitly teach logging this information with a timestamp.

In an analogous art Petrovic teaches, logging information with a timestamp (Paragraph 0044).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify Caporizzo's system to include logging information with a timestamp, as taught by Caporizzo, for the advantage of providing more precise control and record keeping, allowing the system to accurately retain data on when information was received.

Consider **claim 16,** Caporizzo and Petrovic teach monitoring a channel's health by monitoring at least one of channel absence/presence, error count and signal level estimates (Caporizzo - Col 5: lines 4-38).

8. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Caporizzo (US 5,874,992) in view of Leary (US 6,425,133).

Consider **claim 11,** Caporizzo teaches wherein the cable network includes an out-of-band (OOB) control channel (Col 4: lines 15-20; Col 3: lines 51-57, 60-64), and further comprising: at the STB, monitoring of errors/dropouts (Col 5: lines 4-38), but does not explicitly teach monitoring the OOB control channel.

In an analogous art Leary teaches, monitoring the OOB control channel (Col 5: lines 18-20).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify Caporizzo's system to include monitoring the OOB control channel, as taught by Leary, for the advantage of providing overall system control over all channels utilized by the client, creating a more robust system, allowing the client to be notified of anything that happens.

Cited Prior Art

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Smyth et al. discloses receiving signals from plurality of set top boxes and based on error rate and other factors determines whether any of the communication channels used are defective in (US 6,598,229).

Grau et al. discloses monitoring uplink and downlink channels to determine channel quality for each of the channels in the communication system in (US 5,862,451).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON K. LIN whose telephone number is (571)270-1446. The examiner can normally be reached on Mon-Fri, 9:00AM-6:00PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian T. Pendleton can be reached on (571)272-7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason Lin

08/01/2008

/Brian T. Pendleton/

Supervisory Patent Examiner, Art Unit 2623